

Docket No. 94100411(EP)USC1X1C1C1 PDDD
USSN: 09/689,120

PATENT
Art Unit: 2613

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (Previously presented) A pipelined video decoder and decompression system for handling a plurality of separately encoded bit streams, said system comprising:

a start code detector responsive to a single serial bit stream for generating control tokens and data tokens, said token including a plurality of data words, each data word having an extension bit which indicates a presence of additional words therein so that said start code detector detects overlapping start codes in said bit stream, a first start code thereby being ignored and a second start code used to create start code tokens;

a token decode circuit interactively associated with said start code detector, said token decode circuit for recognizing certain of said tokens as control tokens pertinent to a respective processing stage and for passing unrecognized control tokens to a succeeding stage; and

a reconfigurable decode and parser processing means responsive to a recognized control token for reconfiguring a particular stage to handle an identified data.

2. (Previously presented) The system as recited in claim 1 further comprising first and second registers, said first register positioned as an input of said decode and parser means and said second register positioned as an output of said decode and parser means.

Docket No. 94100411(EP)USC1X1C1C1 PDDD
USSN: 09/689,120

PATENT
Art Unit: 2613

3. (Previously presented) The system according to claim 1 wherein said single serial bit stream of digital bits includes separately encoded pairs of control codes and corresponding data carried therein.

4. (Previously presented) The system according to claim 1 wherein said tokens are altered by said processing stages.

5. (Currently amended) A method of processing video data, comprising:
receiving video data having portions encoded in accordance with respective different video standards, the plurality of video standards defining corresponding start codes, including an optional extension data which indicates a presence of additional words therein;

identifying one of the start codes included in the received video data; and
processing the received video data in accordance with the video standard corresponding to the identified start code, including using said optional extension data, if necessary.

6. (Previously presented) The method of claim 5 wherein the start code includes an H.261 picture start code.

7. (Previously presented) The method of claim 5 wherein the start code includes an MPEG (Motion Pictures Experts Group) start code.

8. (Previously presented) The method of claim 5 wherein the start code includes a JPEG (Joint Photographic Experts Group) start of scan marker.

9. (Previously presented) The method of claim 5 wherein the start code includes a start code used by a video format that encodes spatial and temporal video data.

Docket No. 94100411(EP)USC1X1C1C1 PDDD
USSN: 09/689,120

PATENT
Art Unit: 2613

10. (Previously presented) The method of claim 5 wherein the step of processing includes decoding the received video data.

11. (Previously presented) The method of claim 5 wherein the step of processing includes constructing one or more images for display based on the received video data.

12. (Previously presented) The method of claim 5 wherein the step of processing includes rearranging one of the portions of received video data into an arrangement that complies with a different one of the video standards.

13. (Currently amended) A method of processing video data, comprising:
receiving a first set of video data encoded in accordance with a first video standard and having a first start code defined by the first video standard including an optional extension data which indicates a presence of additional words therein;
determining the video standard of the first set of video data by identifying the first start code included in the first set of video data;
processing the first set of video data in accordance with the first video standard, including using said optional extension data, if necessary;
receiving a second set of video data encoded in accordance with a second video standard and having a second start code defined by the second video standard including an optional second extension data which indicates a presence of additional words therein;
determining the second video standard of the second set of video data by identifying the second start code included in the second set of video data; and
processing the second set of video data in accordance with the second video standard, including using said optional second extension data, if necessary.

Docket No. 94100411(EP)USC1X1C1C1 PDDD
USN: 09/689,120

PATENT
Art Unit: 2613

14. (Previously presented) The method of claim 13 wherein the step of processing includes decoding.

15. (Previously presented) The method of claim 13 wherein one of the first or the second video standards includes one of either: an MPEG (Motion Pictures Experts Group) standard, a JPEG (Joint Photographic Experts Group) standard, or an H.261 standard.

16. (Currently amended) A method of processing encoded video data, comprising:

receiving video data having portions encoded with respective different video standards including an optional extension data which indicates a presence of additional words therein;

determining a video standard from the respective different video standards based on one of start codes embedded in the video data;

generating tokens demarcating the received video data; and

processing the received video data in accordance with the tokens, including using said optional extension data, if necessary.

17. (Previously presented) The method of claim 16 wherein the video standards include at least one of the following: MPEG (Motion Pictures Experts Group), H.261, and JPEG (Joint Photographic Experts Group).

18. (Previously presented) The method of claim 16 wherein the tokens include a picture start token.

19. (Previously presented) The method of claim 16 wherein the tokens include a picture end token.

Docket No. 94100411(EP)USC1X1C1C1 PDDD
USSN: 09/689,120

PATENT
Art Unit: 2613

20. (Currently amended) A method of processing encoded video data at a video data processing stage, comprising:

receiving a start identification of one of several video standards of the encoded video data including an optional extension data which indicates a presence of additional words therein;

configuring the video data processing stage based on the received start identification; and

processing the video data at the configured video data processing stage in accordance with the received start identification, including using said optional extension data, if necessary.

21. (Previously presented) The method of claim 20 wherein the video data processing stage includes a decoder.

22. (Previously presented) The method of claim 21 wherein the decoder includes a Huffman decoder.

23. (Previously presented) The method of claim 20 wherein the video data processing stage includes an inverse quantizer.

24. (Previously presented) The method of claim 20 wherein the step of configuring includes determining tables used by the video data processing stage.

25. (Previously presented) The method of claim 20 wherein the video data processing stage programmatically alters electrical signals representing the encoded video data.

26. (Currently amended) A method of processing video data, comprising:
receiving a first video data code or marker corresponding to a first video

Docket No. 94100411(EP)USC1X1C1C1 PDDD
USSN: 09/689,120

PATENT
Art Unit: 2613

standard including an optional extension data which indicates a presence of additional words therein;

searching video data for the received video code or marker;

receiving a second video data code or marker corresponding to a second video standard including an optional second extension data which indicates a presence of additional words therein; and

searching video data for the second video data code or marker.

27. (Previously presented) The method of claim 26 wherein the first video standard includes one of the following: MPEG (Motion Pictures Experts Group, JPEG (Joint Photographic Experts Group), and H.261.

28. (Previously presented) The method of claim 26 wherein the video data code or marker includes at least one of the following: a picture start code, a sequence start code, a slice start code, a start of scan marker, and a group start code.

29. (Currently amended) A method of processing video data, comprising:
receiving video data including an optional extension data which indicates a presence of additional words therein;

determining a video standard associated with the video data;

generating one or more tokens for controlling decoding of the received video data by a decoding pipeline; and

decoding the received video data in the decoding pipeline, including using said optional extension data, if necessary.

30. (Previously presented) The method of claim 29 wherein determining the video standard includes identifying a start code or marker in the received video data.

Docket No. 94100411(EP)USC1X1C1C1 PDDD
USSN: 09/689,120

PATENT
Art Unit: 2613

31. (Previously presented) The method of claim 29 wherein the video standard includes at least one of the following: MPEG, JPEG, and H.261.

32. (Previously presented) The method of claim 29 wherein the step of generating includes generating one or more tokens that configure the decoding pipeline for processing of the determined video standard.

33. (Previously presented) The method of claim 29 wherein the step of generating includes generating one or more tokens demarcating the received video data.

34. (Previously presented) The method of claim 29 wherein the demarcating the received video data includes identifying one or more of the following: a picture start, a picture end, a sequence start, and a group start.

35. (Previously presented) The method of claim 29 wherein the pipeline includes a Huffman decoder.

36. (Previously presented) The method of claim 29 wherein the pipeline includes instructions for an inverse discrete cosine transform upon a portion of the received video data.

37. (Previously presented) The method of claim 29 wherein one of the one or more tokens includes a picture start token that identifies the start of a picture in the received video data.

Docket No. 94100411(EP)USC1X1C1C1 PDDD
USN: 09/689,120

PATENT
Art Unit: 2613

38. (Previously presented) The method of claim 29 wherein one of the one or more tokens includes a picture end token that identifies the end of a picture in the received video data.

39. (Previously presented) The method of claim 29 wherein one of the one or more tokens includes a coding standard token that identifies the video standard of the received video data.

40. (Previously presented) The method of claim 29 wherein one of the one or more tokens includes a flush token that resets stages in the decoding pipeline.

41. (Previously presented) The method of claim 29 wherein clearing the pipeline includes resetting pipeline elements for reception of subsequent video data.